NWS Form E-5 U.S. DEPARTMENT OF COMMERCE NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION NATIONAL WEATHER SERVICE **MONTHLY REPORT OF HYDROLOGIC CONDITIONS**	**HYDROLOGIC SERVICE AREA:** Pocatello, Idaho (PIH) **REPORT FOR:** **MONTH:** July **YEAR:** 2016
TO: Hydrologic Operations Division, W/OH2 National Weather Service National Oceanic and Atmospheric Administration Silver Spring, Maryland 20910	**SIGNATURE** Corey Loveland Service Hydrologist **DATE:** August 15, 2016
When no flooding occurs, include miscellaneous river conditions, such as significant rises, record low stages, ice conditions, snow cover, droughts and hydrologic products issued (NWS Instruction 10-924).	

X **An X in this box indicates that *no* flooding has occurred for the month within this hydrologic service area.**

Overview:

July overall was relatively warm and dry across the Hydrologic Service Area (HSA); particularly dry over the central mountains, with mostly 0.1 to 0.25 across that area. The Henrys Fork and Palisades area faired the best with one-half to one inch of rain overall. Mostly below 50 percent of normal precipitation fell across the HSA. Temperature departures from normal for July show that across the HSA, we ranged just below normal, mostly negative three to one degree F below normal. Mean average temperatures ranged from 53 to 74 degrees F across the HSA. All river basins remain near normal for water year-to-date precipitation thus far.

As far as the short-term 8 to 14 day Climate Prediction Center Outlook is concerned, the forecast of slightly below to near normal temperatures across the HSA (warmer trend to the west and cooler trend to the east) and a 33 percent chance of below normal precipitation across southeastern Idaho. The one-month forecast graphics are found below. For the three-month outlook, the temperature is forecast to be warmer than normal across the West; with a 50 percent chance of above normal temperatures over Idaho. As for three-month outlook for precipitation; the outlook is for a 33 to 40 percent chance of below normal precipitation across southern Idaho.

Of the data available for the month, the station within the HSA reaching the highest 24-hour temperature was the Minidoka Dam COOP station reaching 102°F on the 22nd. The station (non-SNOTEL and non-RAWS) with the lowest recorded temperature was the Stanley COOP station at 25°F on July 7th. The highest recorded 24-hr precipitation (non-SNOTEL) occurred at the Blackfoot COOP station where 1.00 inch fell on the 10th. The highest recorded precipitation total (non-SNOTEL) occurred at the Blackfoot COOP station where 1.13 total inches was recorded for the month. The Island Park SNOTEL recorded 1.70 inches of total precipitation for the month. The basins receiving the greatest precipitation were the Teton River, Henrys Fork/Fall River and Henrys Fork above Rexburg basins receiving 73% and 72% of average precipitation respectively for the month of July-based on SNOTEL data.

Reservoirs last month decreased capacity overall by around 20% in the upper Snake River basin system (a decrease of about 802 KAF occurred over the month and is currently sitting at 40% of capacity overall). Compared to last year at this time, it was about 56% of capacity. According to the Natural Resources Conservation Service and U.S. Bureau of Reclamation reservoir data, the most notable increase in storage capacity was the Island Park and Mackay reservoirs decreasing percent capacity by 43% and 30% respectively.

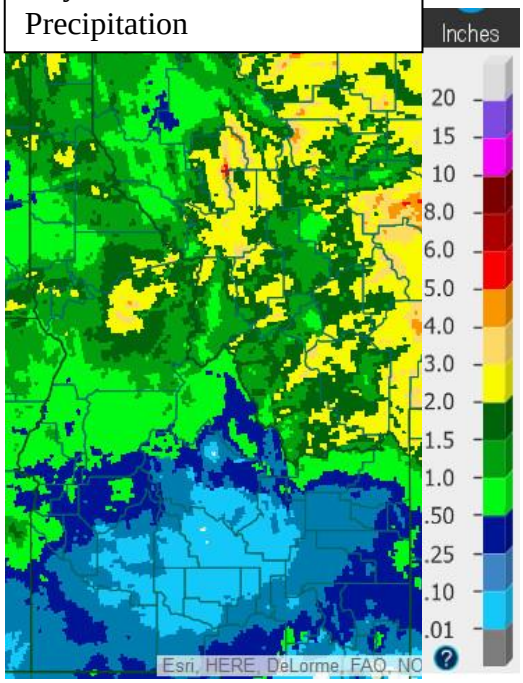
Magic reservoir is currently at 126% of average, Mackay is at 131% and Island Park is at 53% of average with irrigation in full swing.

Current streamflow conditions in eastern Idaho are mostly near to below normal for monthly streamflows for the majority of the unregulated streams (see graphic below).

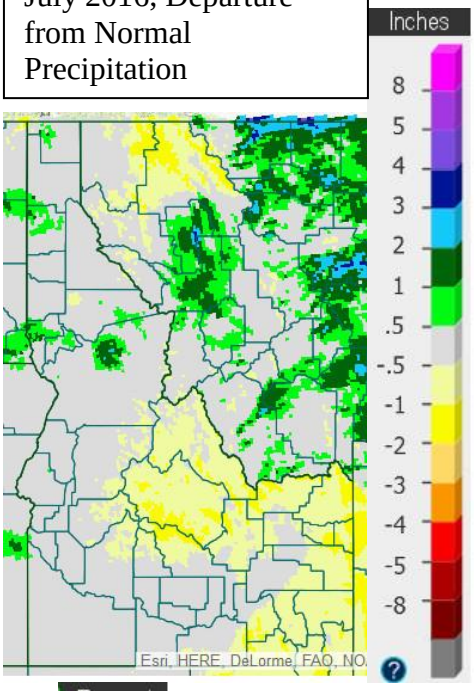
Conditions across eastern Idaho have continued to dry out which is reflected on the latest Drought Monitor update where Abnormally Dry conditions have expanded in Fremont, Clark, Jefferson and Custer counties. Currently, about 70 percent of the state is in Abnormally Dry drought status with less than 2% of the state in Moderate Drought. The latest U.S. Seasonal Drought Outlook continues to show a clear forecast of no drought conditions forecast within the HSA.

Precipitation:

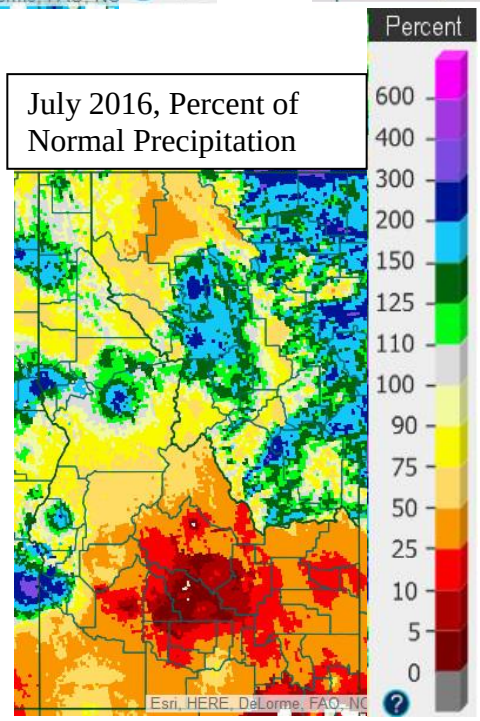
July 2016, Observed Precipitation



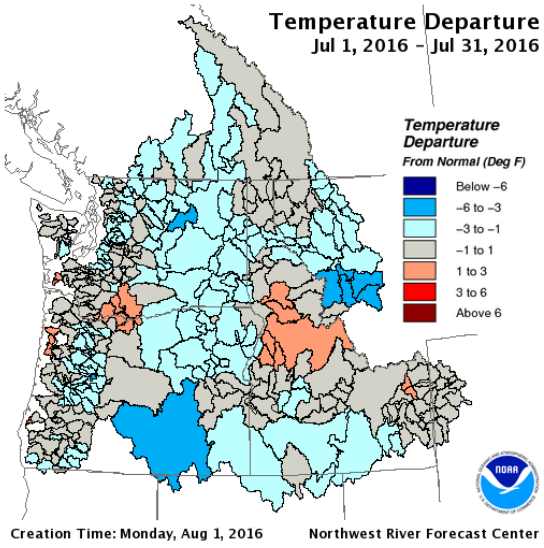
July 2016, Departure from Normal Precipitation



July 2016, Percent of Normal Precipitation



water.weather.gov/precip/#



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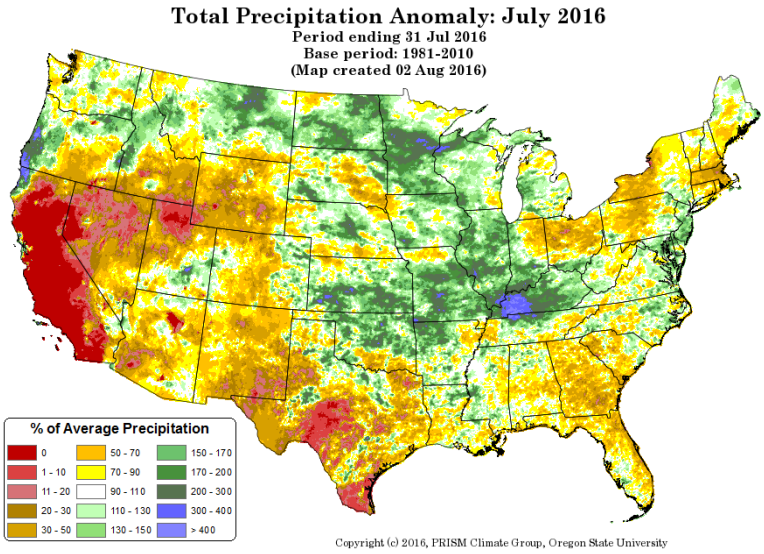
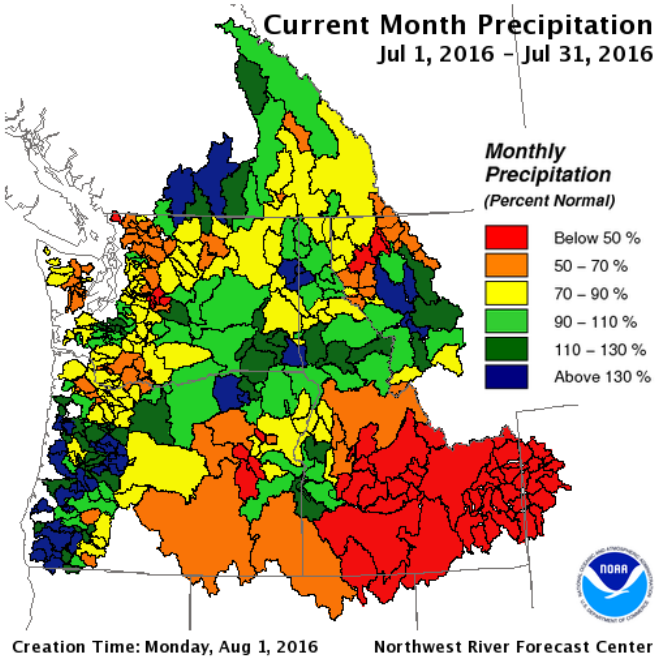


prism.oregonstate.edu/



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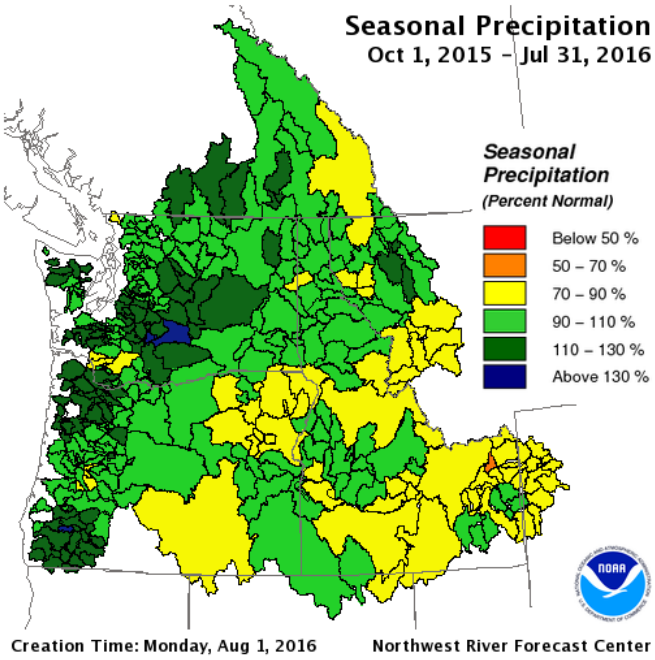

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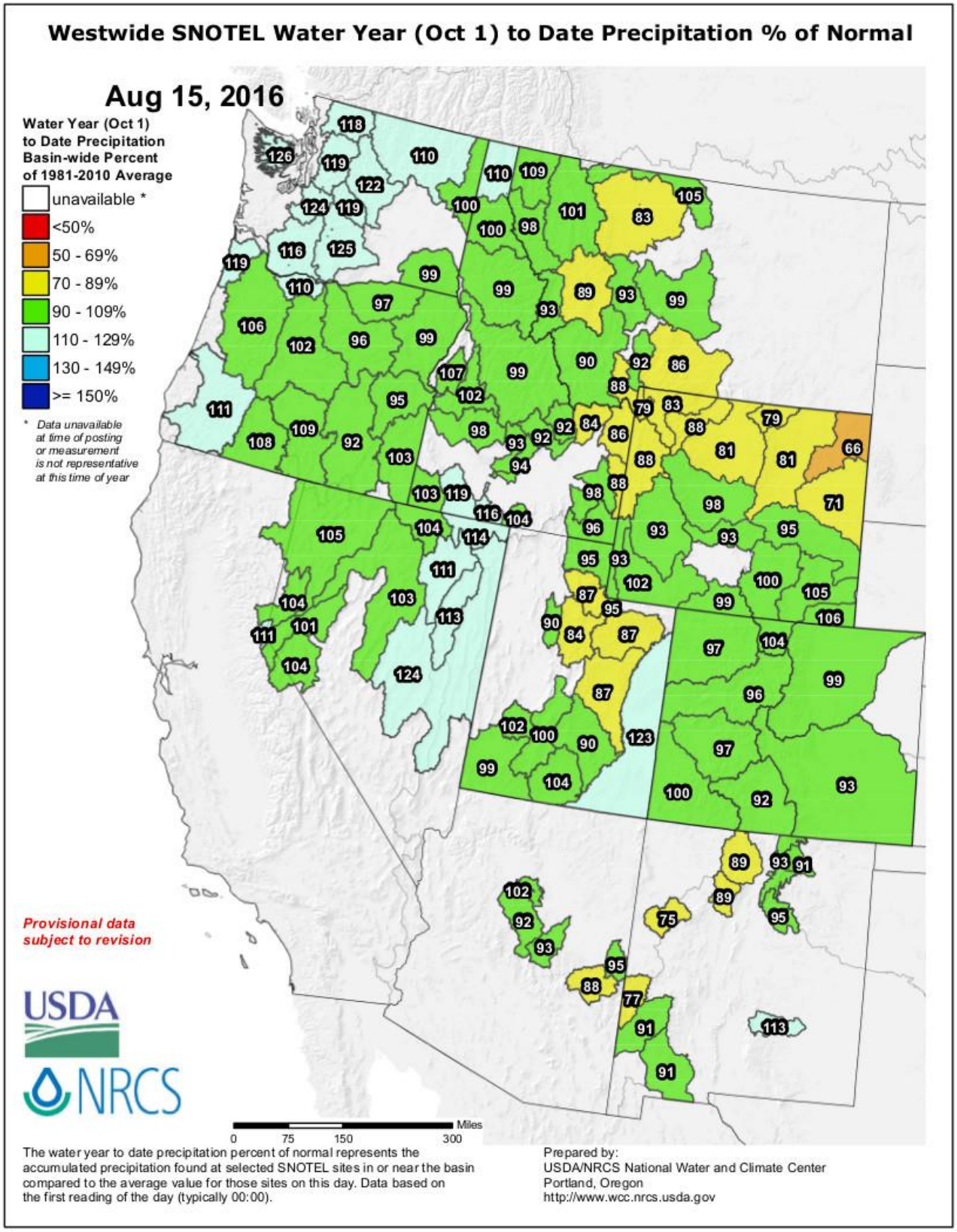
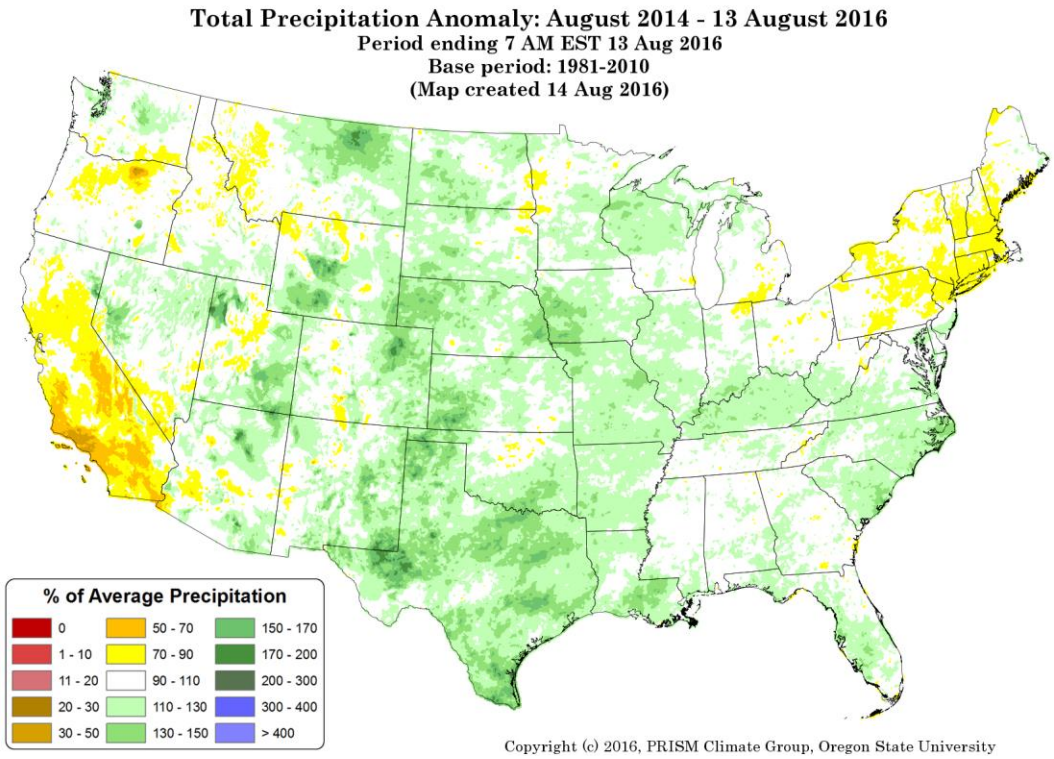
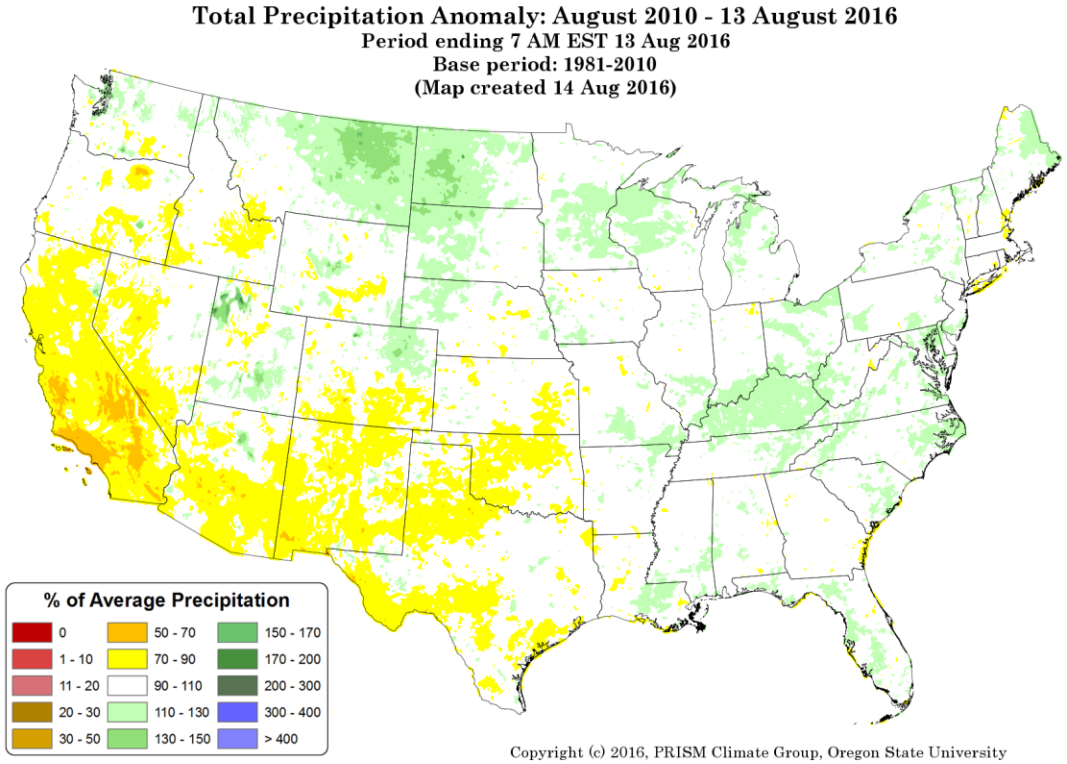


wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/west_wytdprecpctnormal_update.pdf

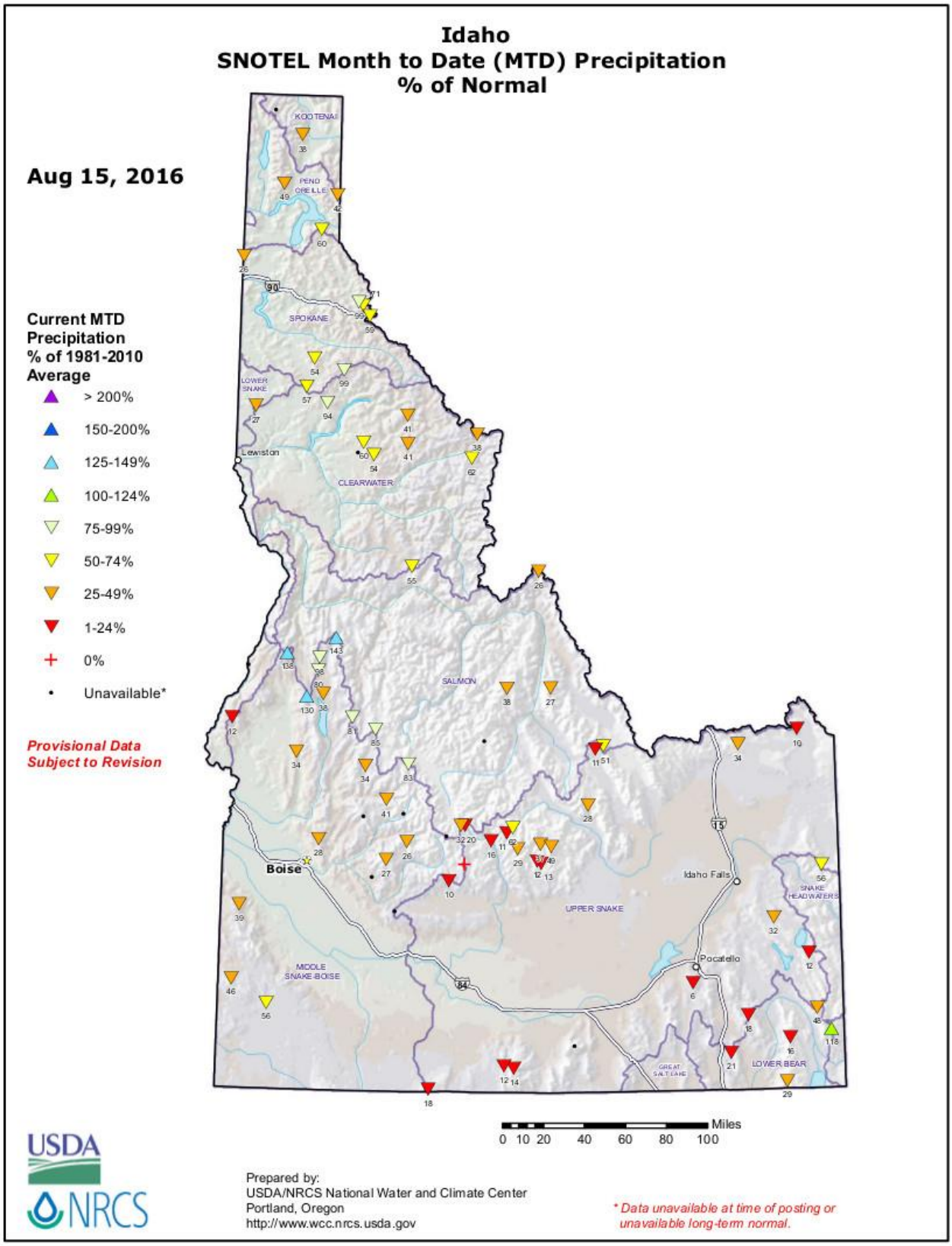
Past 2 Years of Precipitation % of Average:



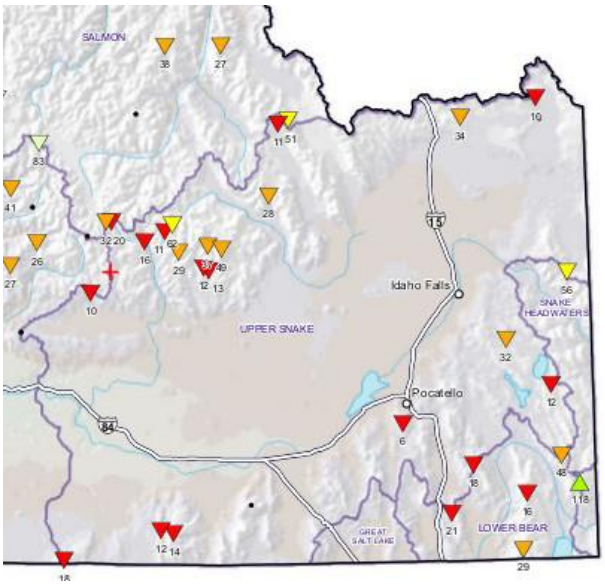
Past 6 Years of Precipitation % of Average:



prism.oregonstate.edu/comparisons/drought.php

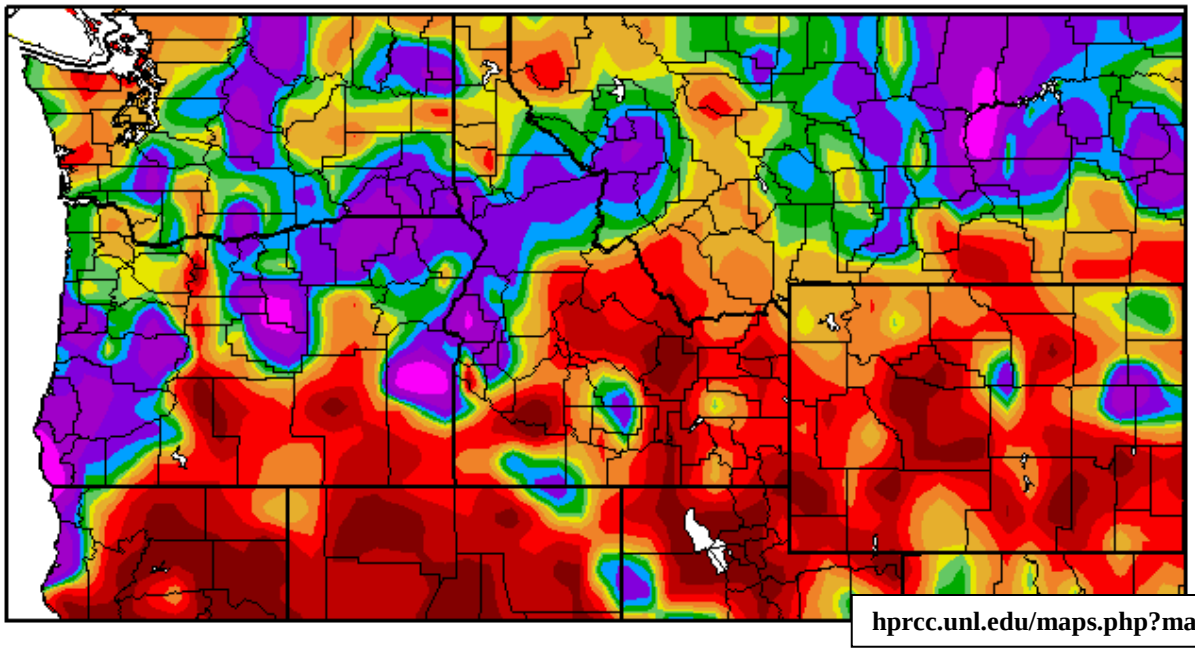


wcc.nrcs.usda.gov/ftpref/data/water/wcs/gis/maps/id_mtdprecpctnormal.pdf



SNOTEL MTD % of Normal Precipitation for end of July 2016
(image is cropped from above image)

Percent of Normal Precipitation (%)
7/1/2016 – 7/31/2016



hprcc.unl.edu/maps.php?map=ACISClimateMaps

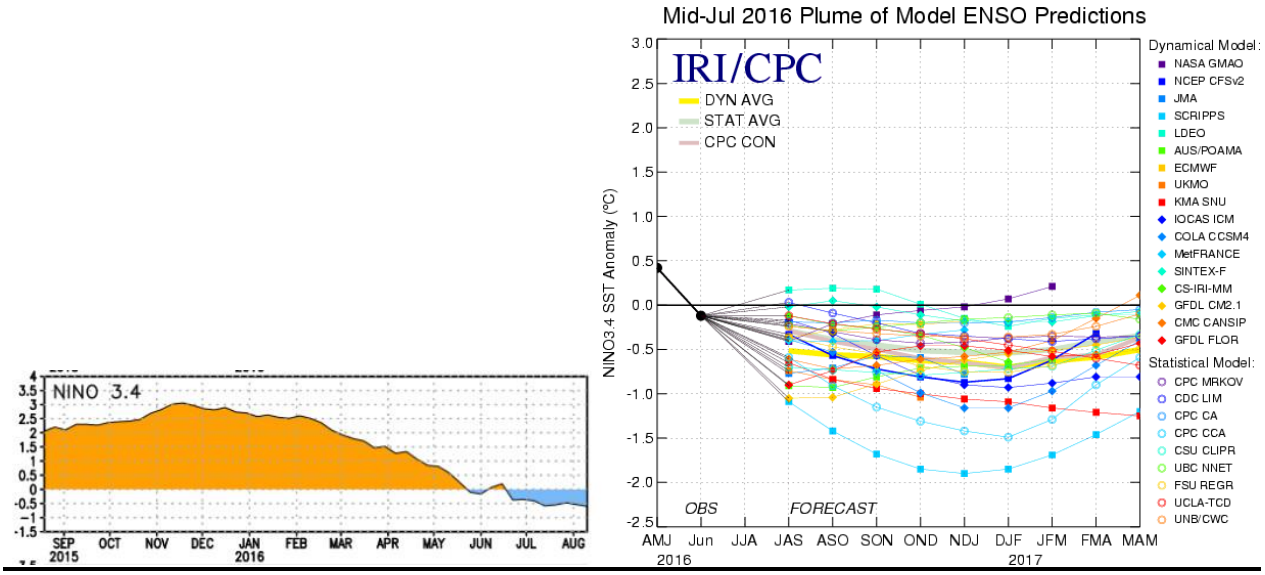
5 25 50 70 90 100 110 130 150 200 300

Generated 8/11/2016 at HPRCC using provisional data. Regional Climate Centers

July was fairly warm and dry across southern Idaho, especially in northern Butte county and the Bear Lake area. Parts of Blaine and Lincoln counties received well above normal precipitation (over 150% of Normal), but were the only areas where above normal rainfall occurred. Most of Idaho was dry and warm as well as WY, western MT, southern OR and NV.

ENSO Update:

Latest Observed SST Departure: Niño 3.4 ~ -0.6 Deg C



cpc.ncep.noaa.gov, iri.columbia.edu/climate/ENSO *and* cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/ensodisc.pdf

CPC Synopsis: La Niña Watch continues, ENSO-neutral conditions present, but La Niña conditions favored to develop during August – October with a 55 - 60% chance of La Niña during this fall and winter.

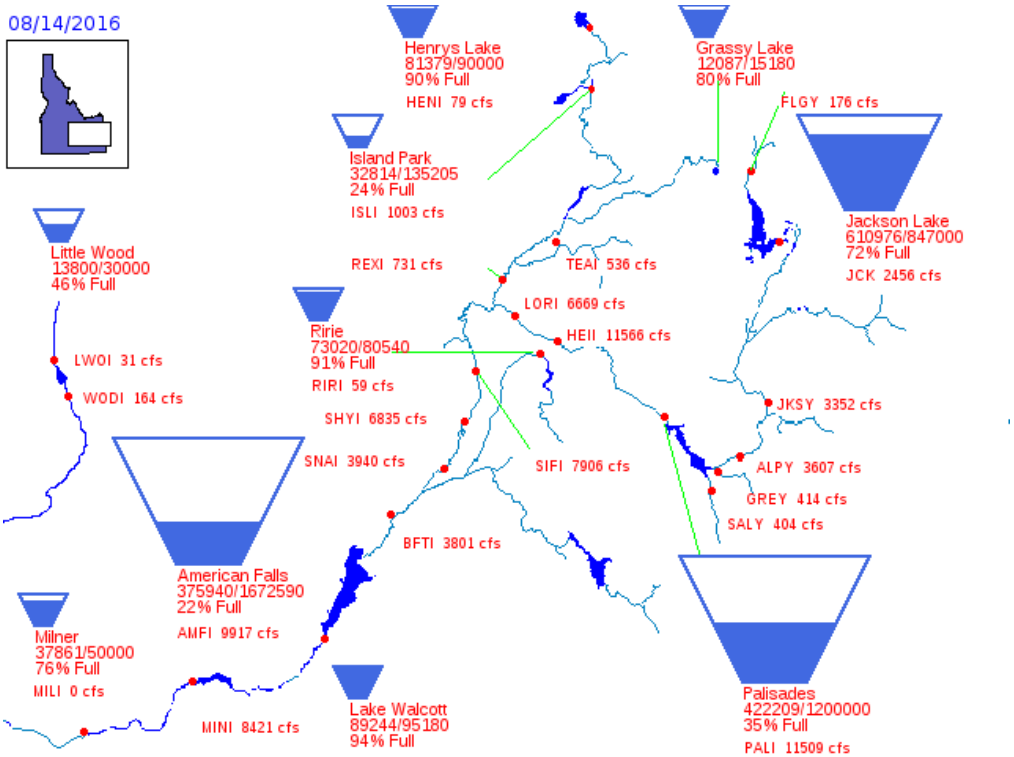
Note: Equatorial sea surface temperature (SSTs) are near or below average in the east-central and eastern equatorial Pacific Ocean. MJO signal is weak. The Pacific Decadal Oscillation (PDO) is currently positive.

Reservoirs:

Reservoir	% Capacity June 30[1]	% Capacity July 31[2]	Percent Change	% of Average[2]	% of Average Last Year[2]
Jackson Lake	92	79	-13	104	114
Palisades	84	57	-27	79	100
Henrys Lake	98	93	-5	104	103
Island Park	79	36	-43	53	62
Grassy Lake	98	80	-18	95	96
Ririe	99	94	-5	113	90
Blackfoot	75	65	-10	115	97
American Falls	53	31	-22	56	71
Mackay	95	65	-30	131	102
Little Wood	88	59	-29	112	43
Magic	88	65	-23	126	8
Oakley	33	24	-9	74	59
Bear Lake	50	43	-7	81	82
Lake Walcott	94[3]	94[4]	0	n/a	n/a
Milner	77[3]	76[4]	-1	n/a	n/a

Source: (1) NRCS June 30, 2016; (2) NRCS July 31, 2016.
(3) US Bureau of Reclamation (BOR) July 17, 2016 (4) BOR August 14, 2016

wcc.nrcs.usda.gov/ftpref/support/water/SummaryReports/ID/BRes_8_2016.pdf

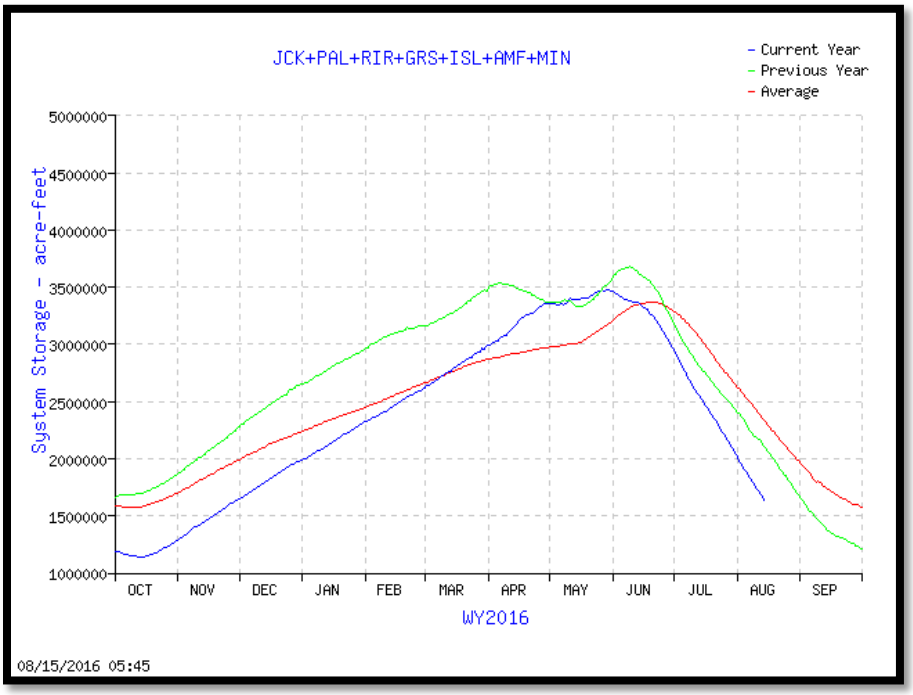


40% of Capacity in Upper Snake River System
(Jackson Lake, Palisades, Grassy Lake, Island Park, Ririe, American Falls & Lake Walcott)

usbr.gov/pn/hydromet/burtea.html

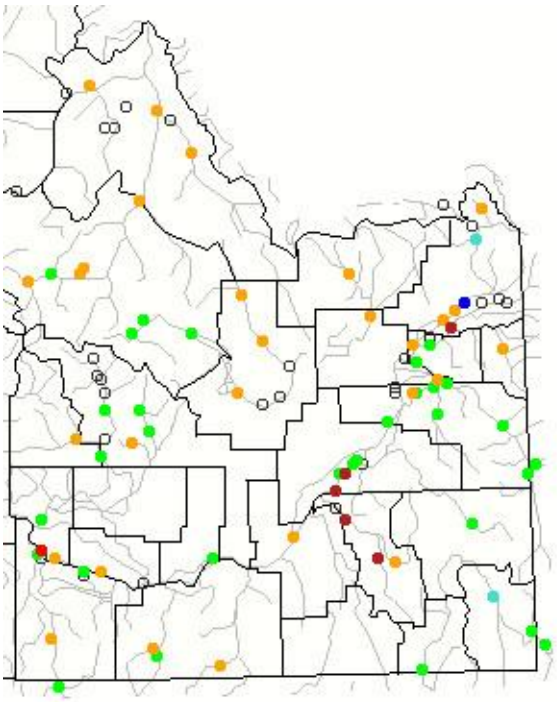
Upper Snake River:
Total Space Available: 2,429,407 AF
Total Storage Capacity: 4,045,695 AF

Graph of Upper Snake River Current Total System Reservoir Storage



usbr.gov/pn-bin/graphwy2.pl?snasys_af

Streamflow:



Monthly average streamflow compared to historical average streamflow for July 2016.

USGS

waterwatch.usgs.gov/?m=mv01d&r=id&w=map

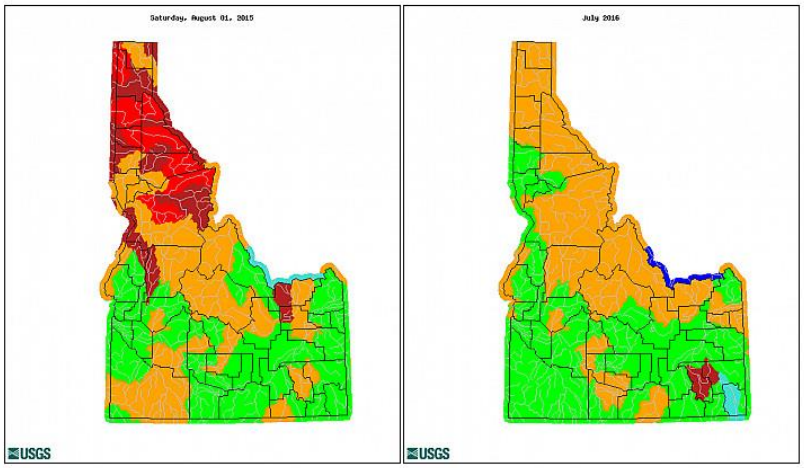
Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	Not-ranked

Comparison of Streamflow Maps

Geographic area: Idaho | Water resource region: | GO

Map type: Monthly Streamflow (month of year) | Sub type: HUC Streamflow Map

Date (YYYYMM): 201507 Date (YYYYMM): 201607

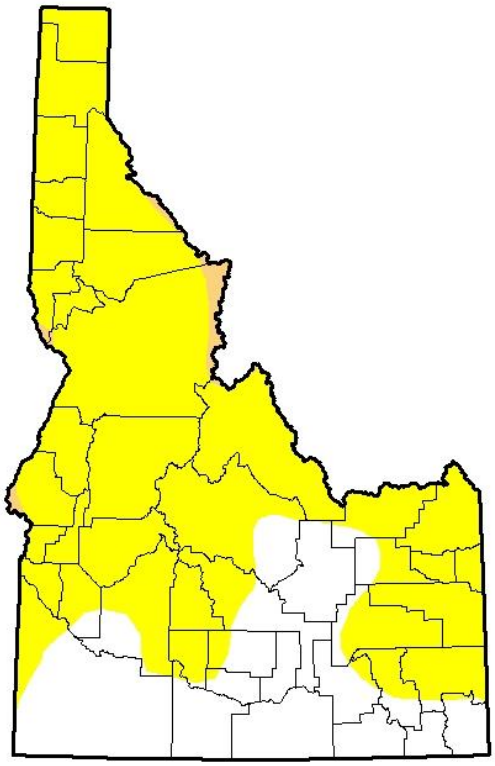


Explanation - Percentile classes							
Low	<10 Much below normal	10-24 Below normal	25-75 Normal	76-90 Above normal	>90 Much above normal	High	No Data

waterwatch.usgs.gov/index.php

Drought:

U.S. Drought Monitor
Idaho



August 9, 2016

(Released Thursday, Aug. 11, 2016)

Valid 8 a.m. EDT

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	29.66	70.34	1.41	0.02	0.00	0.00
Last Week 8/2/2016	40.07	59.93	0.33	0.00	0.00	0.00
3 Months Ago 5/10/2016	92.41	7.59	0.00	0.00	0.00	0.00
Start of Calendar Year 12/29/2015	10.98	89.02	64.05	24.35	1.18	0.00
Start of Water Year 9/29/2015	0.00	100.00	85.59	47.55	29.26	0.00
One Year Ago 8/11/2015	0.00	100.00	86.63	47.97	27.98	0.00

Intensity:

- D0 Abnormally Dry
- D1 Moderate Drought
- D2 Severe Drought
- D3 Extreme Drought
- D4 Exceptional Drought

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

Author:
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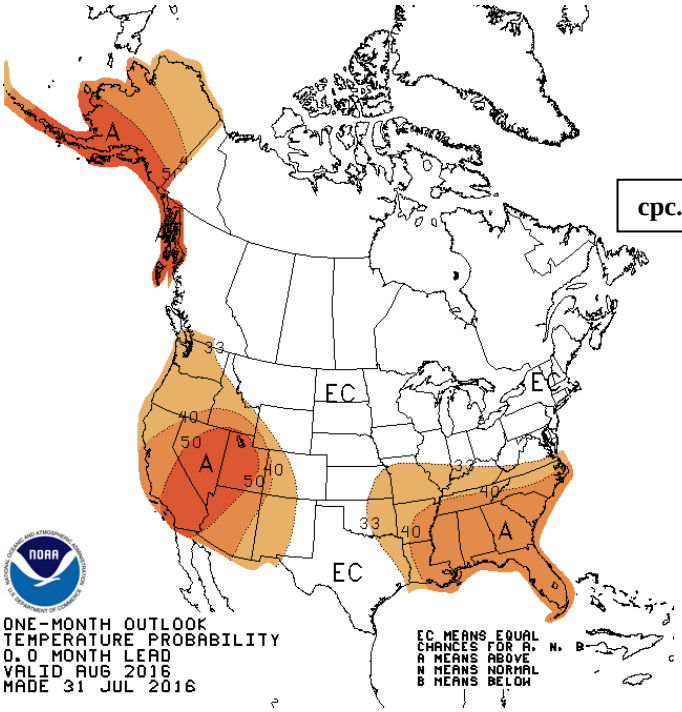
CPC/NOAA/NWS/NCEP

http://droughtmonitor.unl.edu/



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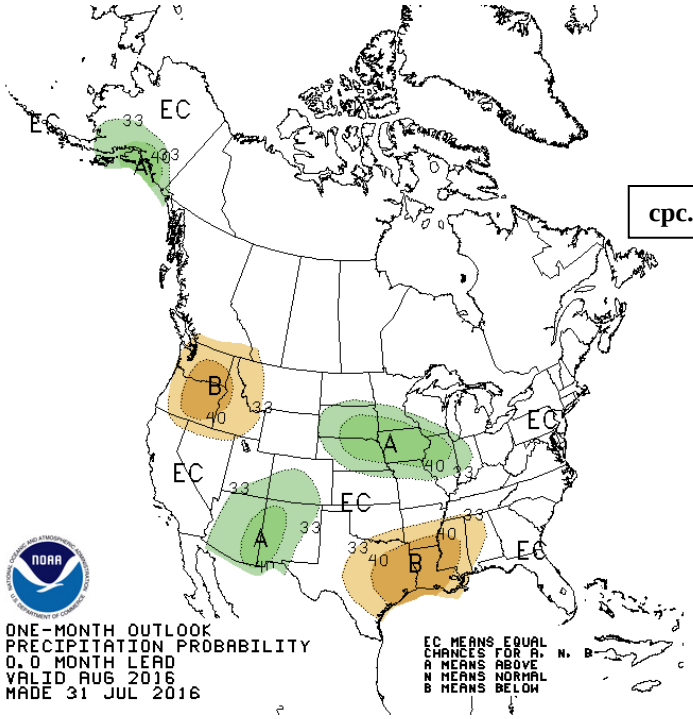

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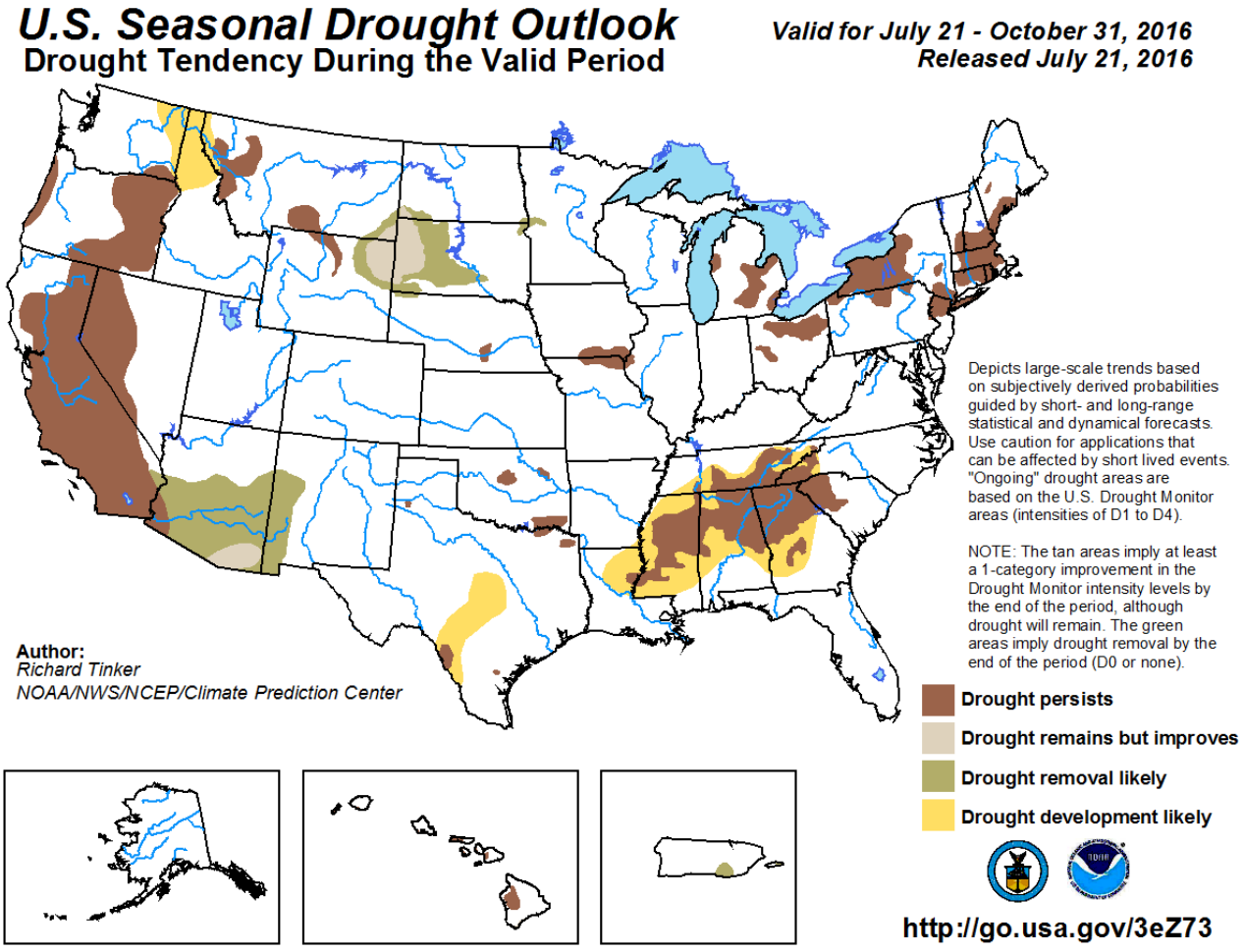

cpc.ncep.noaa.gov/products/expert_assessment/season_drought.png

cc:

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PIH Mets/HMT (pih.ops)

End

cbl